# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division — Biology Bureau

## LAKE TROPHIC DATA

## MORPHOMETRIC:

Lake: POVERTY POND	Lake Area (ha):	4.49
Town: HILL	Maximum depth (m):	10.3
County: Merrimack	Mean depth (m):	1.9
River Basin: Merrimack	Volume (m³):	86000
Latitude: 43°30'30" N	Relative depth:	4.3
Longitude: 71°48′10″ W	Shore configuration:	
Elevation (ft): 1185	Areal water load (m/yr):	14.68
Shore length (m):	Flushing rate (yr <sup>-1</sup> ):	7.70
Watershed area (ha): 129.7	Pretention coeff.:	0.51
% watershed ponded: 0.0	Lake type: natural	w∕dam

10 5-1 1000	
12 February 1990	14 August 1989
DINOBRYON 95%	CHRYSOSPHAERELLA 70%
	DINOBRYON 25%
3	
	875.0
	5.81
KERATELLA 61%	KERATELLA 60%
LARGE GREEN CILIATE 39	NAUPLIUS LARVA 28%
3	CYCLOPOID COPEPOD 8%
72	259
0	166
118	425
	Very abundant
	5.0
2.1	0.9
2	
3	
1 2 2 2	DINOBRYON 95%    DINOBRYON 95%

## SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.2 Hypolimnion volume (m³): 4000

## CHEMICAL:

Lake: POVERTY POND Town: HILL

	TOWN: MILL				
	12 February 1990		14 August 1989		39
DEPTH (m)	3.0	5.0	1.5	5.5	9.0
pH (units)	5.7	5.7	5.9	5.8	5.9
A.N.C. (Alkalinity)	2.1	2.8	0.5	1.2	7.9
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.25	0.27	0.23	0.26	0.67
TOTAL PHOSPHORUS	0.005	0.005	0.010	0.009	0.027
CONDUCTIVITY (p mhos/cm)	25.4	27.2	18.0	21.6	30.0
APPARENT COLOR (cpu)	14	17	12	12	49
MAGNESIUM			0.26		
CALCIUM			2.0		
SODIUM			< 3.0		
POTASSIUM			0.20		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	5	5	5		3
TN : TP	50	54	23		25
CALCITE SATURATION INDEX			5.4		

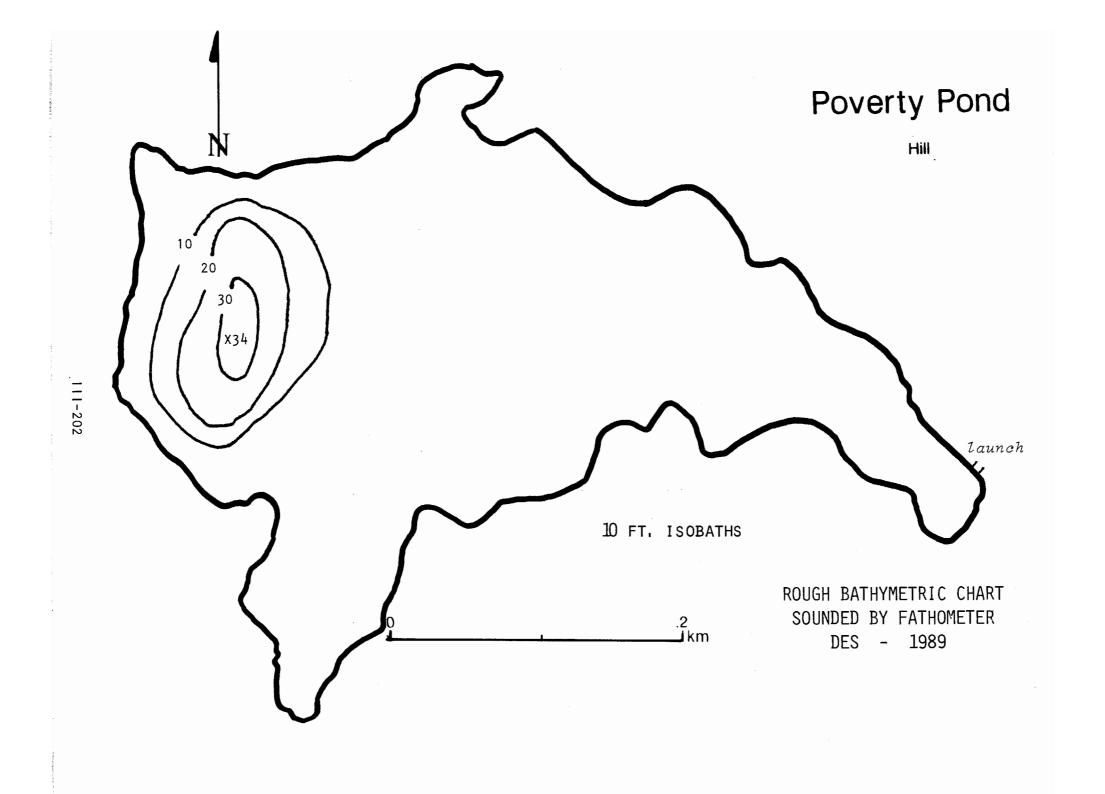
All results in mg/L unless indicated otherwise

# TROPHIC CLASSIFICATION: 1989

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
3	2	6	1	12	Meso.

## **COMMENTS:**

- 1. No public access.
- 2. Most of this area is more a wetland than a pond.
- 3. Dominant whole-water phytoplankton genera were Peridinium (40%) and tiny green flagellates (40%).



## FIELD DATA SHEET

LAKE: POVERTY POND

DATE: 08/14/89

TOWN: HILL

WEATHER: OVERCAST; WARM & HAZY

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	22.5	8.5	96 %
1.0	21.9	8.5	94 %
2.0	21.0	7.1	79 %
3.0	20.5	6.7	73 %
4.0	17.0	12.0	124 %
5.0	12.5	12.2	113 %
6.0	10.0	10.9	95 %
7.0	8.5	3.0	25 %
8.0	7.2	0.8	6 %
9.0	7.0	0.8	6 %
9.5	7.0	0.9	7 %
		,	
****			

SECCHI DISK (m): 5.0

COMMENTS:

BOTTOM DEPTH (m): 10.0

TIME: 1100

\*Dissolved oxygen values are in mg/L

#### AQUATIC PLANT SURVEY

LAKE: POVERTY POND TOWN: HILL DATE: 08/14/89

Key	PLANT	ADUNDANCE		
ney	GENERIC	COMMON	ABUNDANCE	
U	Utricularía	Bladderwort	Very abundant	
N	Nymphaea	White water lily	Abundant	
Υ	Nuphar	Yellow water lily	Scattered	
Р	Pontederia cordata	Pickerelweed	Sparse	
	Myrica gale	Sweet gale	Common	
	Sphagnum	Peat moss	Common	
	Sarracenia purpurea	Pitcher-plant	Scattered	
	Drosera	Sundew	Scattered	
	Brasenia schreberi	Water shield	Scattered	
	Potamogeton natans	Floating-leaf pondweed	Scattered	
		,		

OVERALL ABUNDANCE: Very abundant

#### GENERAL OBSERVATIONS:

1. Poverty Pond had a small area of open water at the western end that was surrounded by the first three plants listed above. The rest of the 'pond' (as shown on the outline map) was a shallow wetland. It contained floating sphagnum mats with sundew and pitcher plants. Sweet gale was common around the pond edge and interspersed in the wetland portion. Mats of floating bladderwort were common throughout the wetland.